

is established between the first item and the tag so that the tag may gather data about the item, such as usage, movement, and so on.

[0078] At block 304, a second item is identified. For example, the tag tracking device 34 may collect data on second items that are tagged. In other embodiments, the second item may not include a tag. The customer profile generator 38 may include profile information that establishes whether the second item is related to the first item. In other embodiments, the pattern analyzer 40 may establish from other information sources whether the second item is related to the first item, for example, by analyzing purchase history and so on.

[0079] At block 306, the RTMS 10 may determine if the second item enhances or otherwise complements the first item. For example, the first item may be a bottle of milk and the second item may be chocolate syrup, which may be added to the milk. A determination may be made that the supply of milk at the customer's home is almost empty. Here, the RTMS 10 may also establish that the customer 15 enjoys chocolate milk and has made prior purchases of chocolate syrup. Accordingly, at block 308, the customer 15 may be notified of the opportunity to purchase chocolate syrup with the next replenishment of milk, or receive a coupon, advertisement, promotion related to chocolate syrup.

[0080] In some embodiments, the customer may automatically purchase the second item, for example, as part of an IoT subscription service. In other embodiments, the customer may have an option whether to accept the second item. In other embodiments, the customer may select to not receive information on the second item, for example, by entering a request into a user interface in communication with the RTMS 10.

[0081] In some embodiments, the RTMS 10 may provide a time sensitive advertising technique. Here, the RTMS 10 learns more about the customer 15 as the customer 15 uses offered services and purchases products. Additionally, third party systems may provide demographic data on customers which assists the retail provider to learn more about its customers. For example, the customer 15 may set user preferences when subscribing to a service that includes the replenishment of items 21, which may be captured by the RTMS 10. As the customer 15 uses the items 21, the RTMS 10 can gather purchase data, use data, such as frequency of use, and so on.

[0082] In some embodiments, a safety warning related to a retail subscription service may be generated in an IoT environment, in accordance with some embodiments. Customers can configure the RTMS 10, for example, via an application on a smartphone or other computer, to receive safety warnings, or opt out of receiving safety warnings. Safety warnings may relate to power failures, inclement weather alerts, health hazards, and so on. For example, the customer 15 may receive an alert that a product being purchased has nuts and may subject a user to the dangers of nut allergies.

[0083] In some embodiments, the customer 15 may have a warranty on an item. Warranty-related notifications can be provided to the customer 15, or the customer may elect not to receive such notifications, for example, by selecting an option on an application executed on a computer and communicating with the RTMS 10. Warranty purchases may be

automatically provided, or the customer 15 may waive the option of possessing a warranty.

[0084] As will be appreciated by one skilled in the art, concepts may be embodied as a device, system, method, or computer program product. Accordingly, aspects may take the form of an entirely hardware embodiment, an entirely software embodiment (including firmware, resident software, micro-code, etc.) or an embodiment combining software and hardware aspects that may all generally be referred to herein as a "circuit," "module" or "system." Furthermore, aspects may take the form of a computer program product embodied in one or more computer readable medium(s) having computer readable program code embodied thereon.

[0085] Computer program code for carrying out operations for the concepts may be written in any combination of one or more programming languages, including an object oriented programming language such as Java, Smalltalk, C++ or the like and conventional procedural programming languages, such as the "C" programming language or similar programming languages. The program code may execute entirely on the user's computer, partly on the user's computer, as a stand-alone software package, partly on the user's computer and partly on a remote computer or entirely on the remote computer or server. In the latter scenario, the remote computer may be connected to the user's computer through any type of network, including a local area network (LAN) or a wide area network (WAN), or the connection may be made to an external computer (for example, through the Internet using an Internet Service Provider).

[0086] Concepts are described herein with reference to flowchart illustrations and/or block diagrams of methods, apparatus (systems) and computer program consumer goods according to embodiments. It will be understood that each block of the flowchart illustrations and/or block diagrams, and combinations of blocks in the flowchart illustrations and/or block diagrams, can be implemented by computer program instructions. These computer program instructions may be provided to a processor of a special purpose computer, or other programmable data processing apparatus to produce a machine, such that the instructions, which execute via the processor of the computer or other programmable data processing apparatus, create means for implementing the functions/acts specified in the flowchart and/or block diagram block or blocks.

[0087] These computer program instructions may also be stored in a computer readable medium that can direct a computer, other programmable data processing apparatus, or other devices to function in a particular manner, such that the instructions stored in the computer readable medium produce an article of manufacture including instructions which implement the function/act specified in the flowchart and/or block diagram block or blocks.

[0088] The computer program instructions may also be loaded onto a computer, other programmable data processing apparatus, cloud-based infrastructure architecture, or other devices to cause a series of operational steps to be performed on the computer, other programmable apparatus or other devices to produce a computer implemented process such that the instructions which execute on the computer or other programmable apparatus provide processes for implementing the functions/acts specified in the flowchart and/or block diagram block or blocks.

[0089] The flowchart and block diagrams in the Figures illustrate the architecture, functionality, and operation of